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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,692	01/03/2006	Hiroaki Koyama	CSP-114-A	2670

21828 7590 09/29/2006

CARRIER BLACKMAN AND ASSOCIATES  
24101 NOVI ROAD  
SUITE 100  
NOVI, MI 48375

EXAMINER

LIN, ING HOUR

ART UNIT PAPER NUMBER

1725

DATE MAILED: 09/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

5

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/532,692	KOYAMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ing-Hour Lin	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006 and 22 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/05 &amp; 8/06</u>   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: the claimed "SCM", "SKD" and "SKH" materials are abbreviation and not supported or defined in the claim.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Righi in view of either CN 2180362Y or Kumpula.

Righi (col. 4, lines 24+) substantially teaches the claimed die and the method of manufacturing the casting die, comprising the use of a die main body 2 including gate 6 and having a wall surface for defining a mold cavity and a cavity forming member or an insert die

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(heat exchange insert 30) disposed or embedded at location in a recess near the gate of the main body, wherein the die main body and the insert die are made of steel and the insert having welded part facing and forming part of the mold cavity, such as the outer shell 110.

Righi fails to teach the use of better steel for the insert.

However, CN '362Y (see page 1+ and Fig. 1) teaches the use of better steel for the insert die (inner sheath 2), made of more high-temperature resistance and high strength (hardness) compared to the main body for the purpose of effectively reducing the hot corrosion and stress impact due to the casting molten steel. Kumpula (col. 2, lines 62+) teaches the use of better steel such as maraging steel served as mold steel for the purpose of effectively improving the thermal stability and mechanical properties of the die parts. It would have been obvious to one having ordinary skill in the art to provide Righi the use of better steel for the insert as taught by either CN '362Y or Kumpula in order to effectively reduce the hot corrosion and stress impact due to the casting molten steel.

5. Claims 1 and 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Righi in view of Kumpula and further in view of Suzuki et al.

Righi in view of Kumpula fails to teach the use of hot tool steel such as SKD steel for the die main body.

However, Suzuki et al (col. 3, lines 16+) teach the use of hot tool steel such as SKD steel for the die main body for the purpose of effectively improving the casting quality in a die casting method. It would have been obvious to one having ordinary skill in the art to provide Righi in view of Kumpula the use of hot tool steel such as SKD steel for the die main body as taught by

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Suzuki et al in order to effectively improve casting quality and enhance the working life of die parts.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ing-Hour Lin whose telephone number is (571) 272-1180. The examiner can normally be reached on M-F (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*I.H.L.*

I.-H. Lin

9-25-06

KEVIN KERNS *Kevin Kerns 9/27/06*  
PRIMARY EXAMINER